

## ABSTRACT OF THE DISCLOSURE

The present invention is a field-measuring system and method supported by a PDA (Personal Digital Assistant) at the control processing field, comprising: a plurality of energy converters for sensing the processing variables at the control processing field and outputting the electric signals in response to the processing variables; a processing controller with a multi-port input interface for receiving the electric signals, processing the electric signals based on a single-chip microprocessor, and outputting the digital data corresponding to the processing variables; a personal digital assistant (PDA) for executing a driver to receive the digital data, and displaying the messages related to the processing variables; and a communication interface circuit for transmitting the data to a PDA. The combination of a PDA with a communication protocol technique facilitates the establishment of a real-time system for data retrieval and monitoring at a control processing field. In addition, the present invention improves the safety of the pipeline operation, and monitors the abnormalities of the pipelines around the clock by operating the pipe switch device at the field.